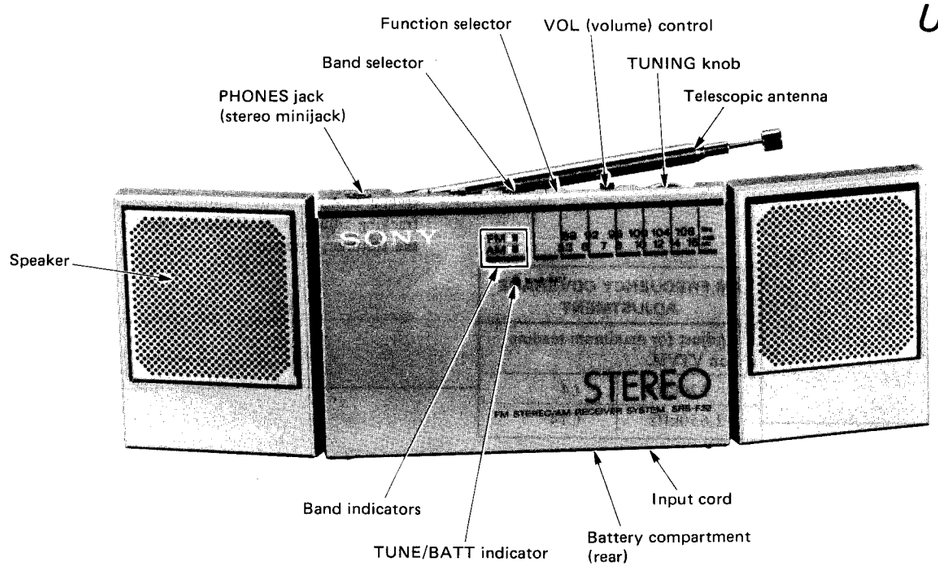
SERVICE MANUAL

AEP Model
UK Model
E Model



SPECIFICATIONS

Frequency range	FM: 87.5 - 108 MHz AM: 530 - 1,605 kHz (566 - 187 m)
Antennas	FM: Telescopic antenna Headphone cord antenna AM: Built-in ferrite bar antenna
Speakers	Two, approx. 50 mm (2 inches) dia.
Power output (at 10% harmonic distortion)	Headphones: 25 mW + 25 mW (at 32 ohm) Speakers: 150 mW + 150 mW (at 4 ohm)
Input	Input cord with stereo miniplug Cord length: approx. 45 cm (17 3/4 inches)
Output	Headphone jack (stereo minijack)
Power requirements	3 V dc, two size AA batteries (IEC designation R6)
Dimensions	Approx. 108 × 70 × 19.5 mm (w/h/d) (4 3/8 × 2 7/8 × 25/32 inches) incl. projecting parts and controls with the speaker section closed
Weight	Approx. 150 g (5.3 oz) not incl. batteries Approx. 190 g (6.8 oz) incl. batteries

MICROFILM

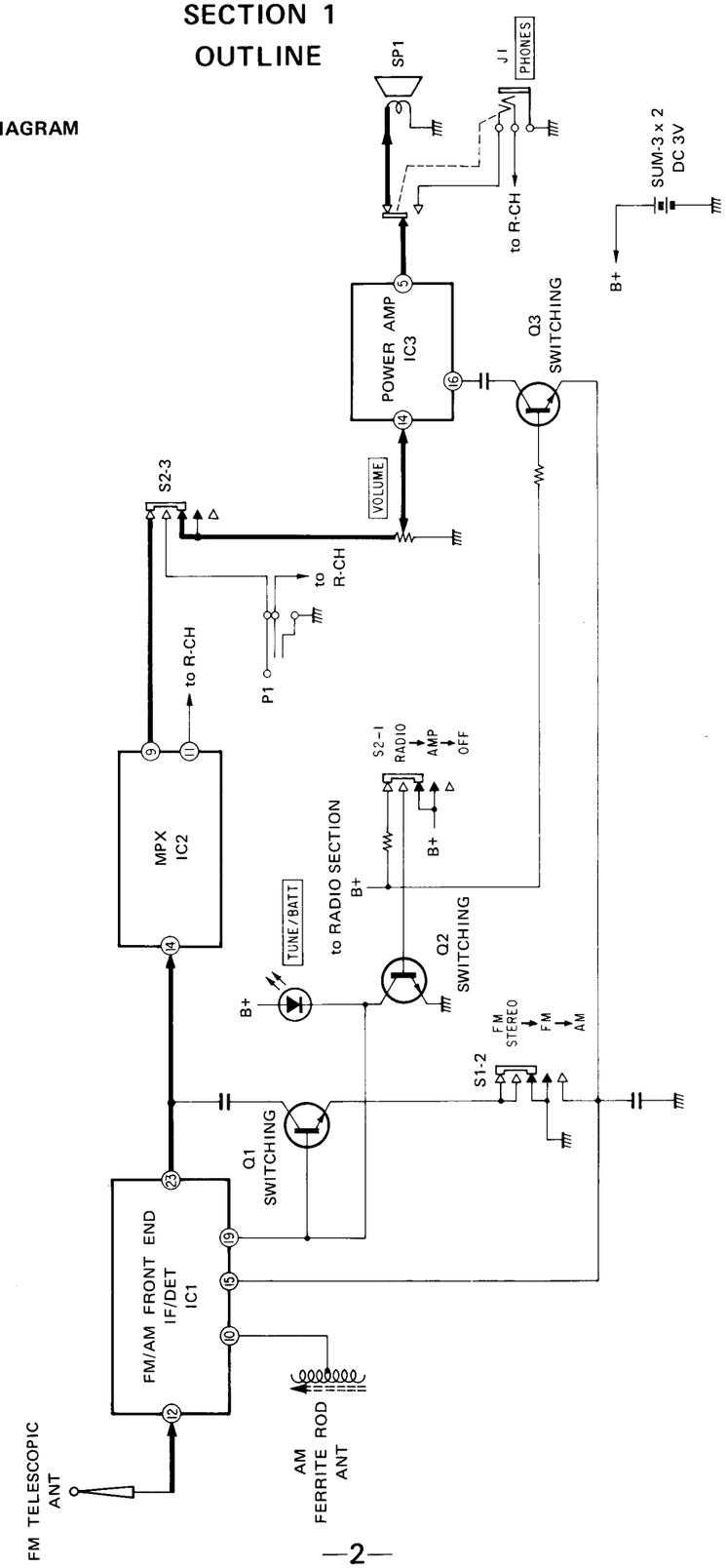
FM/AM STEREO RECEIVER SYSTEM

SONY®

TR

SECTION 1
OUTLINE

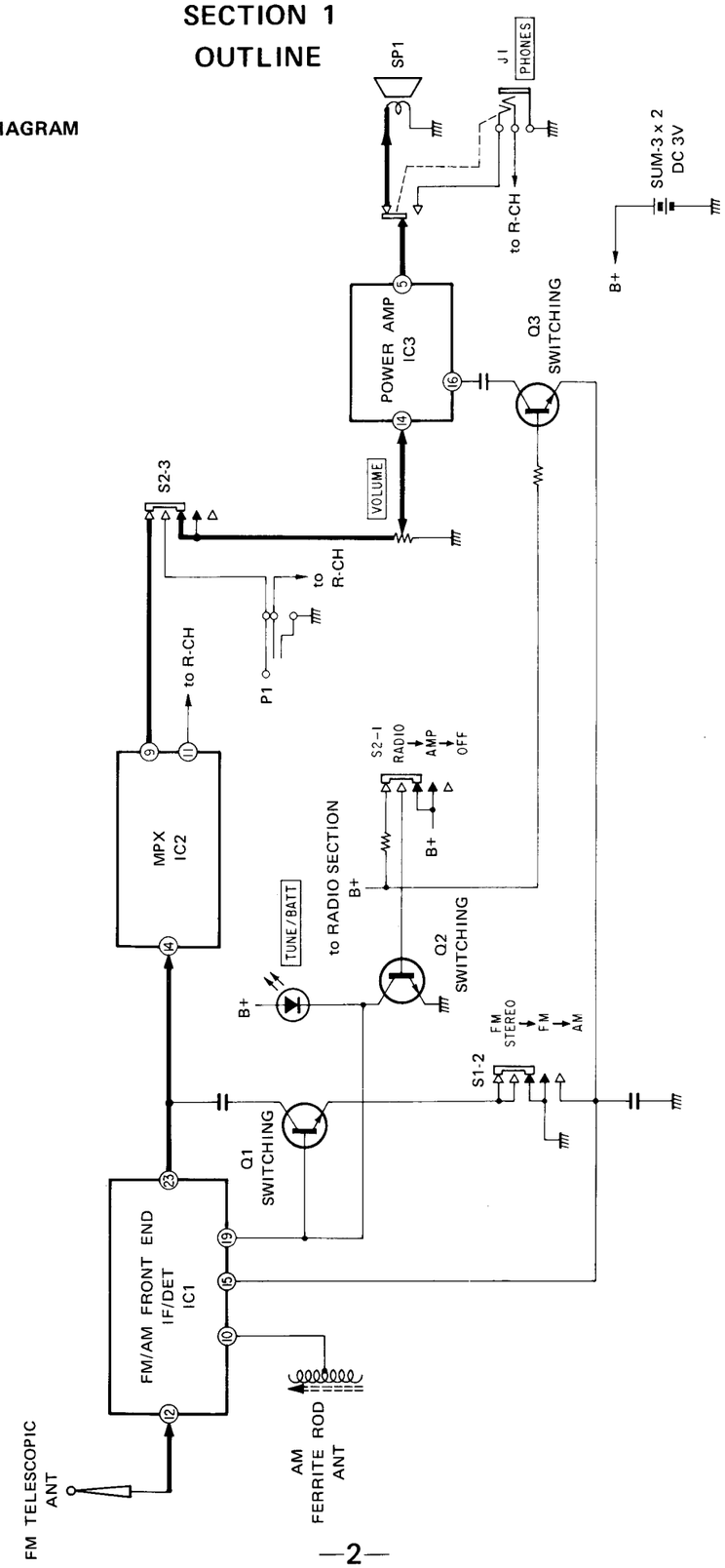
1-1. BLOCK DIAGRAM



P Model
K Model
E Model

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM

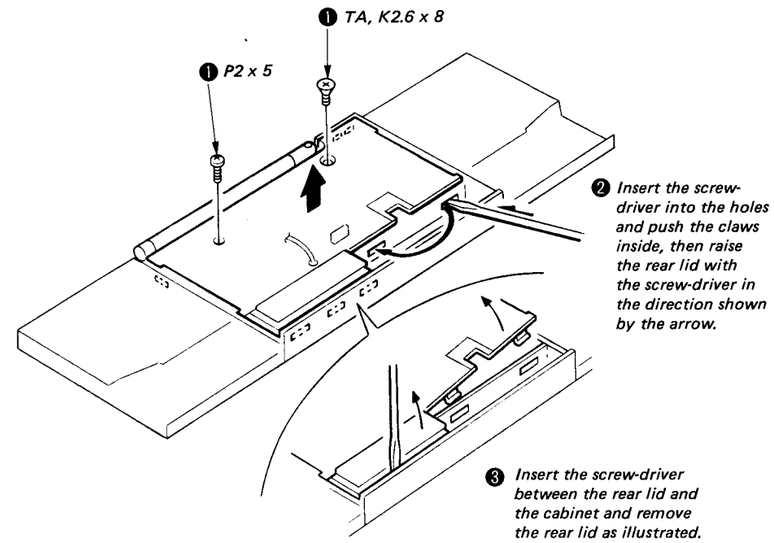


SECTION 2
DISASSEMBLY

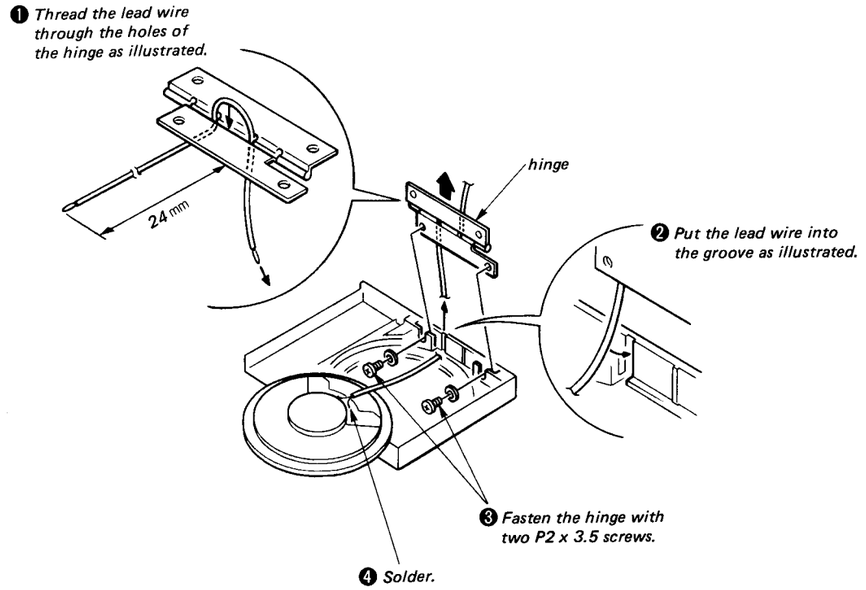
2-1. DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

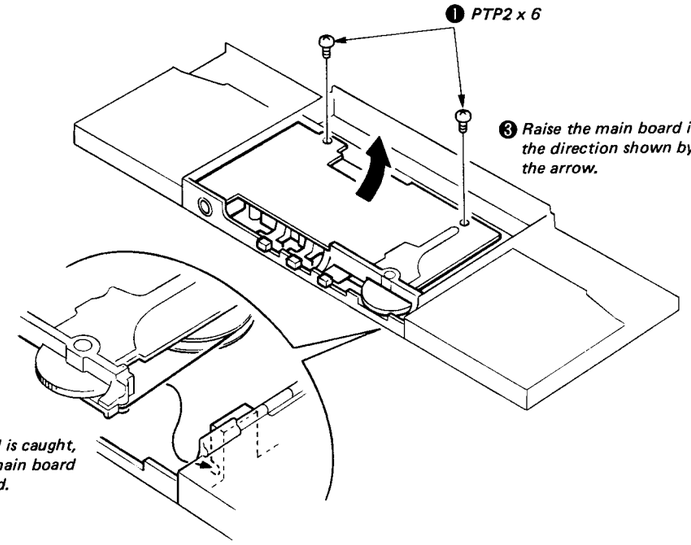
REAR LID REMOVAL


❶ TA, K2.6 x 8
❶ P2 x 5
❷ Insert the screw-driver into the holes and push the claws inside, then raise the rear lid with the screw-driver in the direction shown by the arrow.
❸ Insert the screw-driver between the rear lid and the cabinet and remove the rear lid as illustrated.

SPEAKER CORD REPLACEMENT


❶ Thread the lead wire through the holes of the hinge as illustrated.
24mm
hinge
❷ Put the lead wire into the groove as illustrated.
❸ Fasten the hinge with two P2 x 3.5 screws.
❹ Solder.

MAIN BOARD REMOVAL

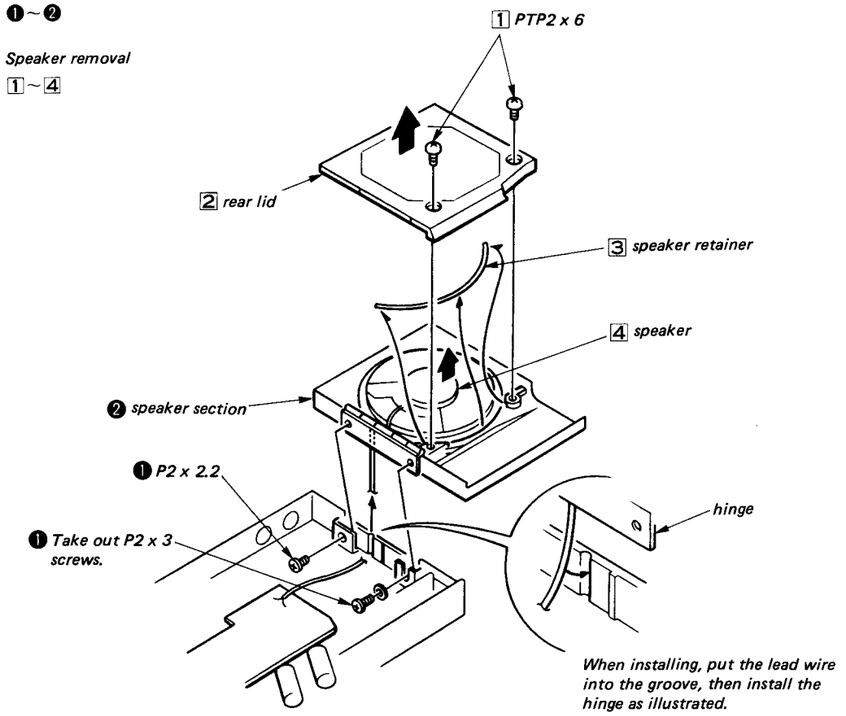

❶ PTP2 x 6
❸ Raise the main board in the direction shown by the arrow.
As dial cord is caught, install the main board as illustrated.

SPEAKER SECTION REMOVAL

❶~❷

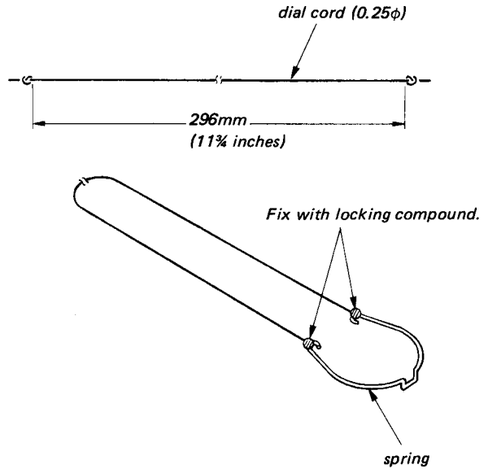
Speaker removal

1~4


1 PTP2 x 6
2 rear lid
3 speaker retainer
4 speaker
❷ speaker section
❶ P2 x 2.2
❶ Take out P2 x 3 screws.
hinge
When installing, put the lead wire into the groove, then install the hinge as illustrated.

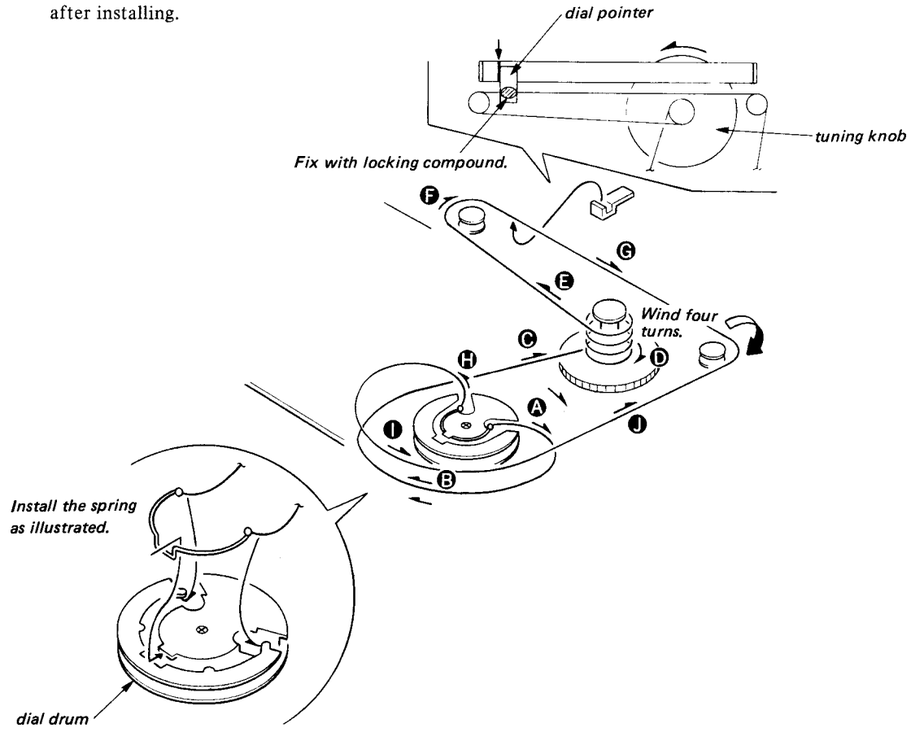
2-2. DIAL CORD STRINGING

1. Preparation



2. Stringing

1) Install the spring to dial drum.
2) Turn the dial drum fully clockwise.
3) String the dial cord in the alphabetical order given.
4) Turn the tuning knob fully counterclockwise and install the dial pointer as illustrated.
5) Fix the dial pointer with locking compound after installing.

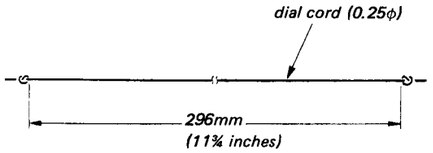


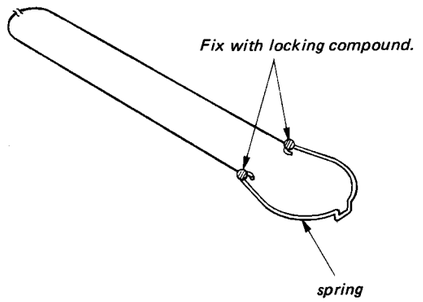
3-1. E

AM S

2-2. DIAL CORD STRINGING

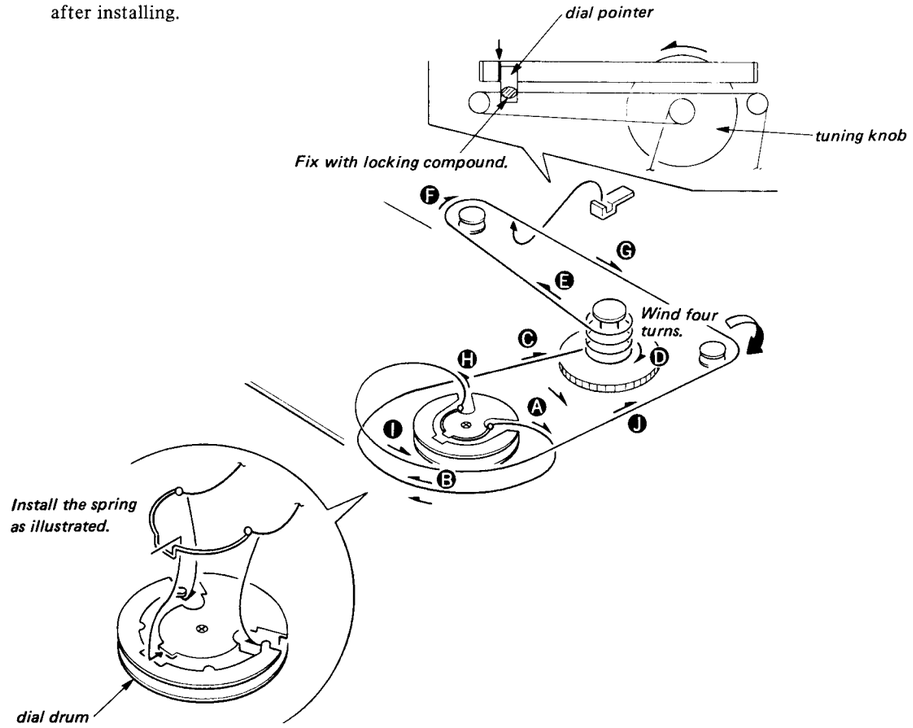
1. Preparation





2. Stringing

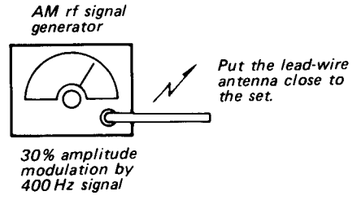
1) Install the spring to dial drum.
2) Turn the dial drum fully clockwise.
3) String the dial cord in the alphabetical order given.
4) Turn the tuning knob fully counterclockwise and install the dial pointer as illustrated.
5) Fix the dial pointer with locking compound after installing.

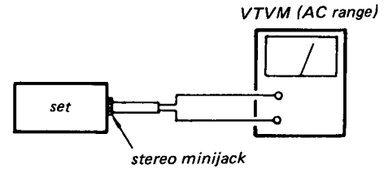


SECTION 3
ADJUSTMENTS

3-1. ELECTRICAL ADJUSTMENTS

AM SECTION



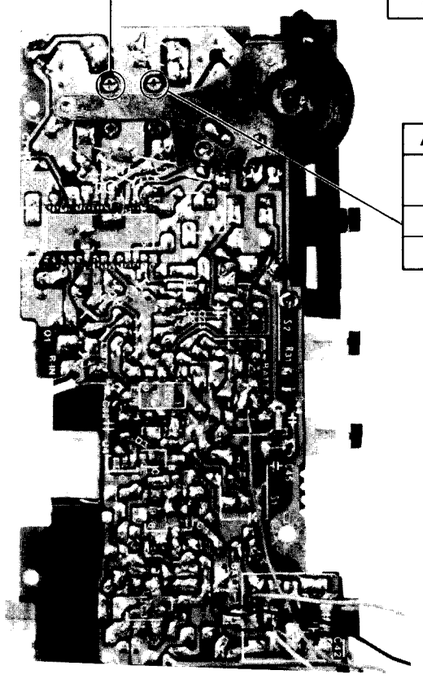


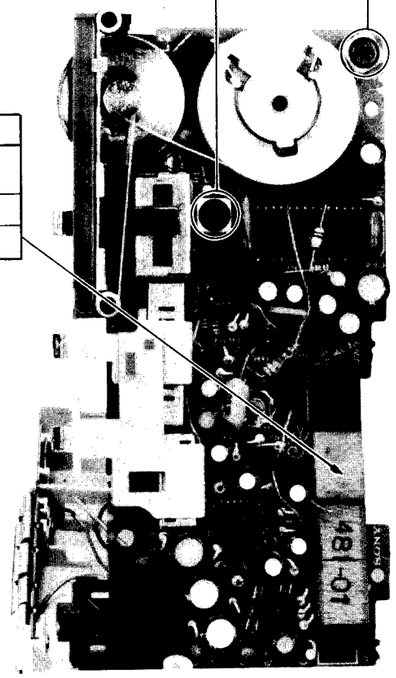
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for maximum reading on VTVM.	
520kHz	L4
1,650kHz	CT4

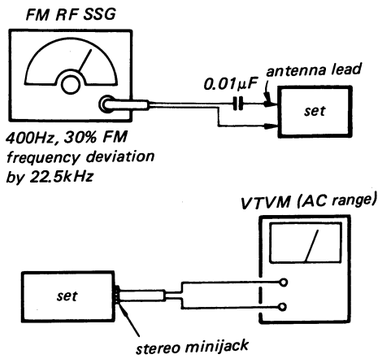
AM IF ALIGNMENT	
Adjust for maximum reading on VTVM.	
455kHz	T1

AM TRACKING ADJUSTMENT	
Adjust for maximum reading on VTVM.	
1,400kHz	CT1
620kHz	L1





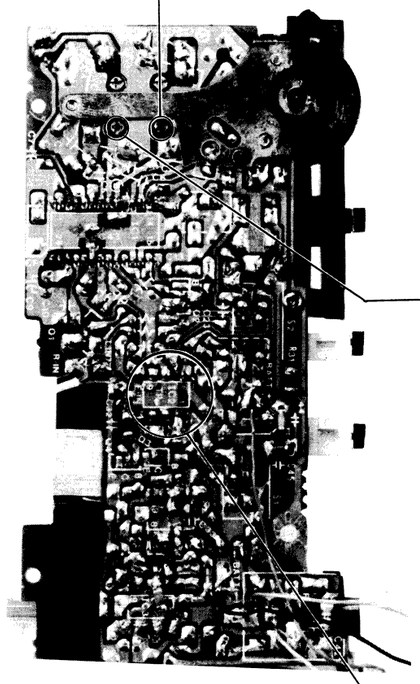
FM SECTION

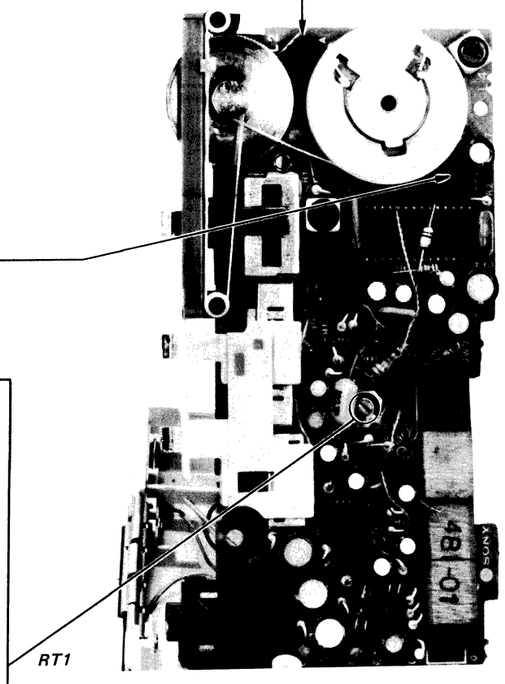


- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM TRACKING ADJUSTMENT	
Adjust for maximum reading on VTVM.	
108MHz	CT2
88MHz	L2

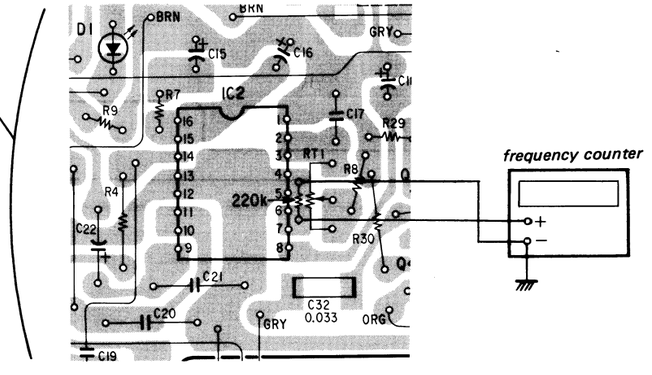
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for maximum reading on VTVM.	
86.5MHz	L3
109.5MHz	CT3





VCO ADJUSTMENT

1. Set the BAND SW FM.
2. Solder a 1μF/50V capacitor between pins (14) of IC2 and ground on the conductor side.
3. Solder a 220kΩ resistor between pins (17) of IC2 and ground on the conductor side, then connect the frequency counter across that resistor.
4. Adjust RT1 for 76kHz ± 70Hz reading on the frequency counter.
5. After the adjustment, remove the capacitor and the resistor.



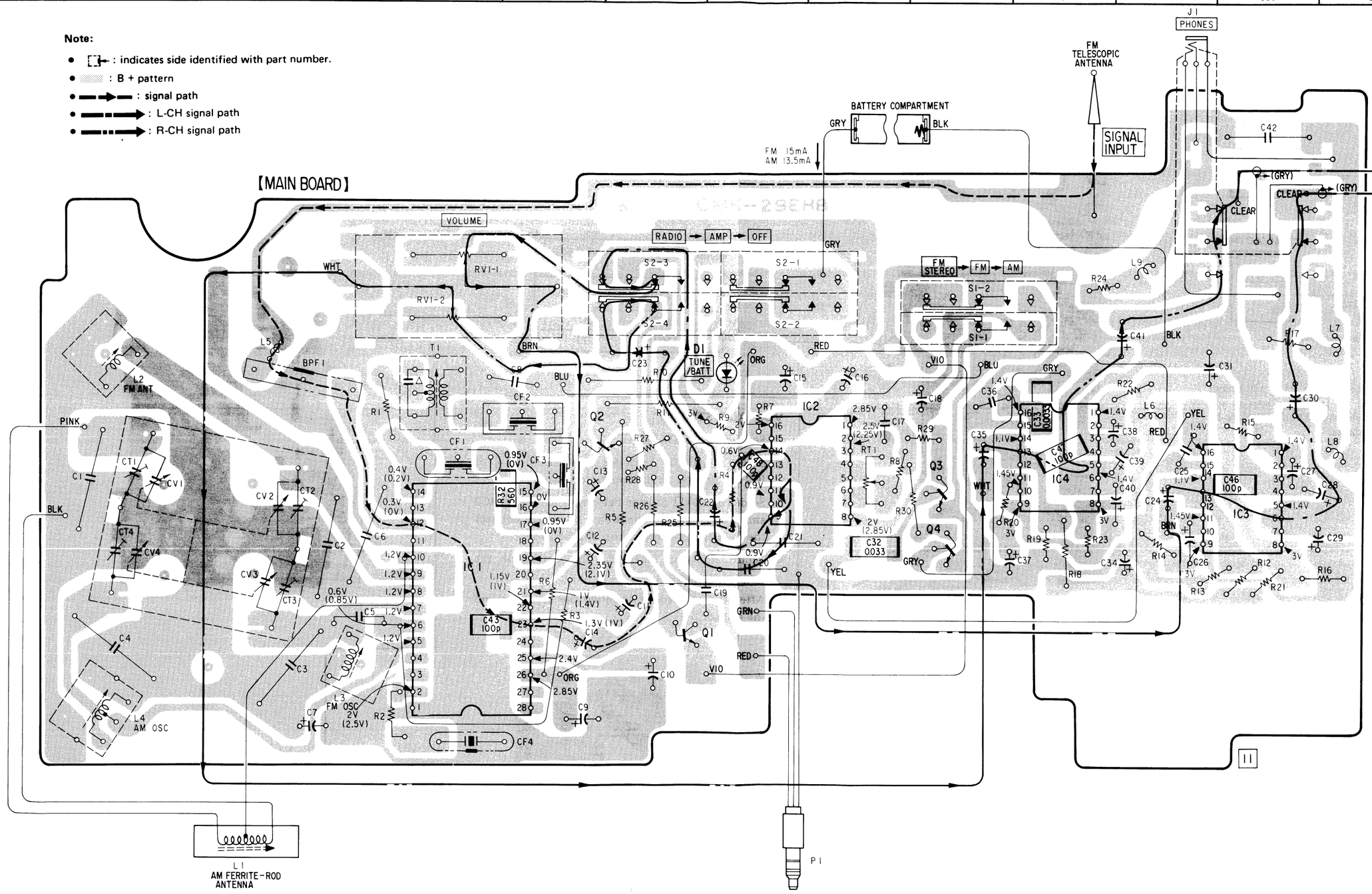
SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM

Note:

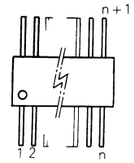
- [ ]← : indicates side identified with part number.
- ▒ : B + pattern
- ▬▶▬ : signal path
- ▬▶ : L-CH signal path
- ▬▶ : R-CH signal path

【MAIN BOARD】

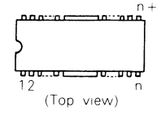


Semiconductor Lead Layouts

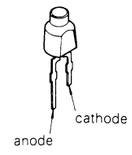
CX20075



TA7331F
TA7342F



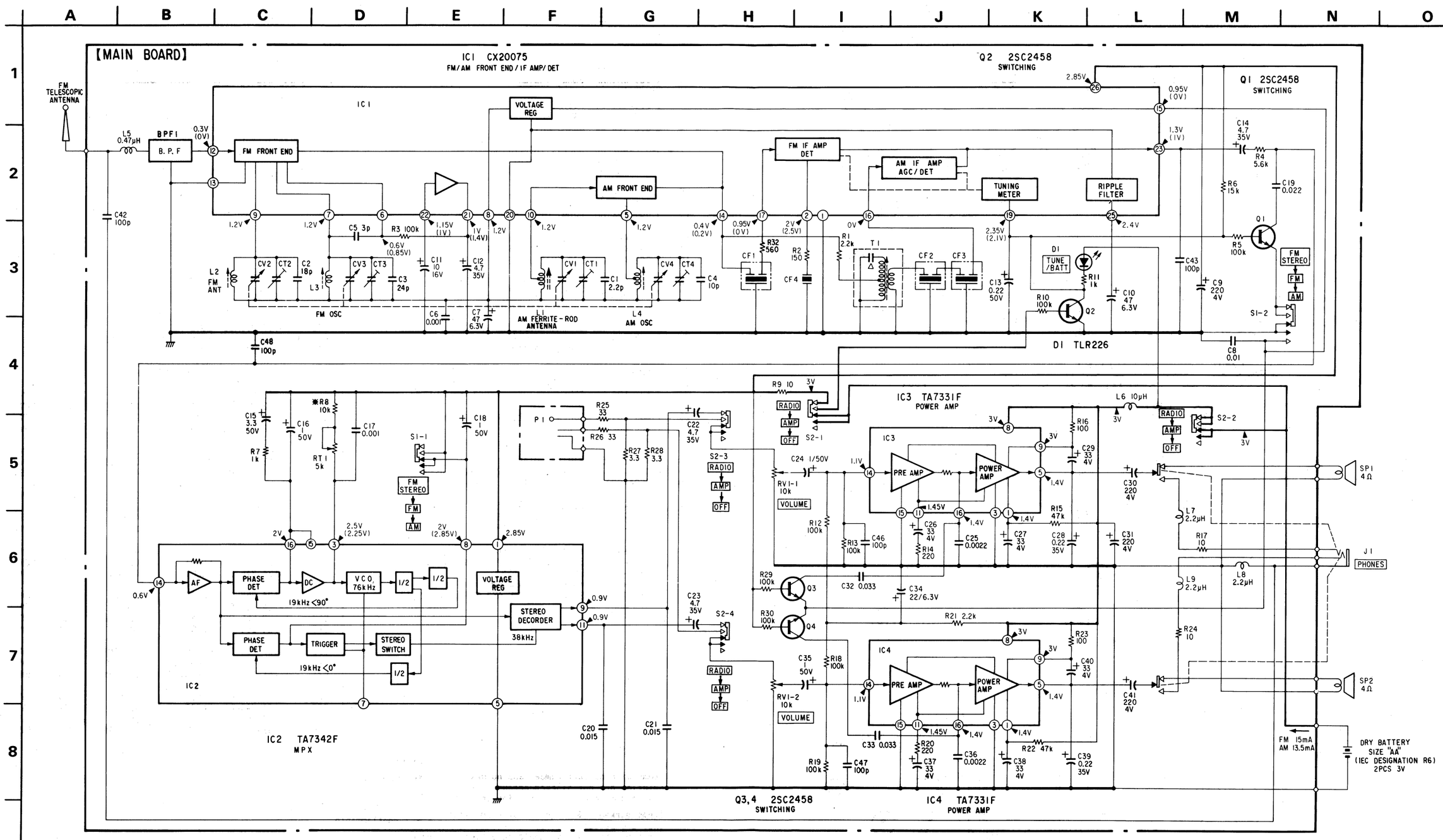
TLR226



2SC2458

Q,IC	IC1	2	1	IC2	3 4	IC4	IC3	Q,IC
D			1					D

4-2. SCHEMATIC DIAGRAM



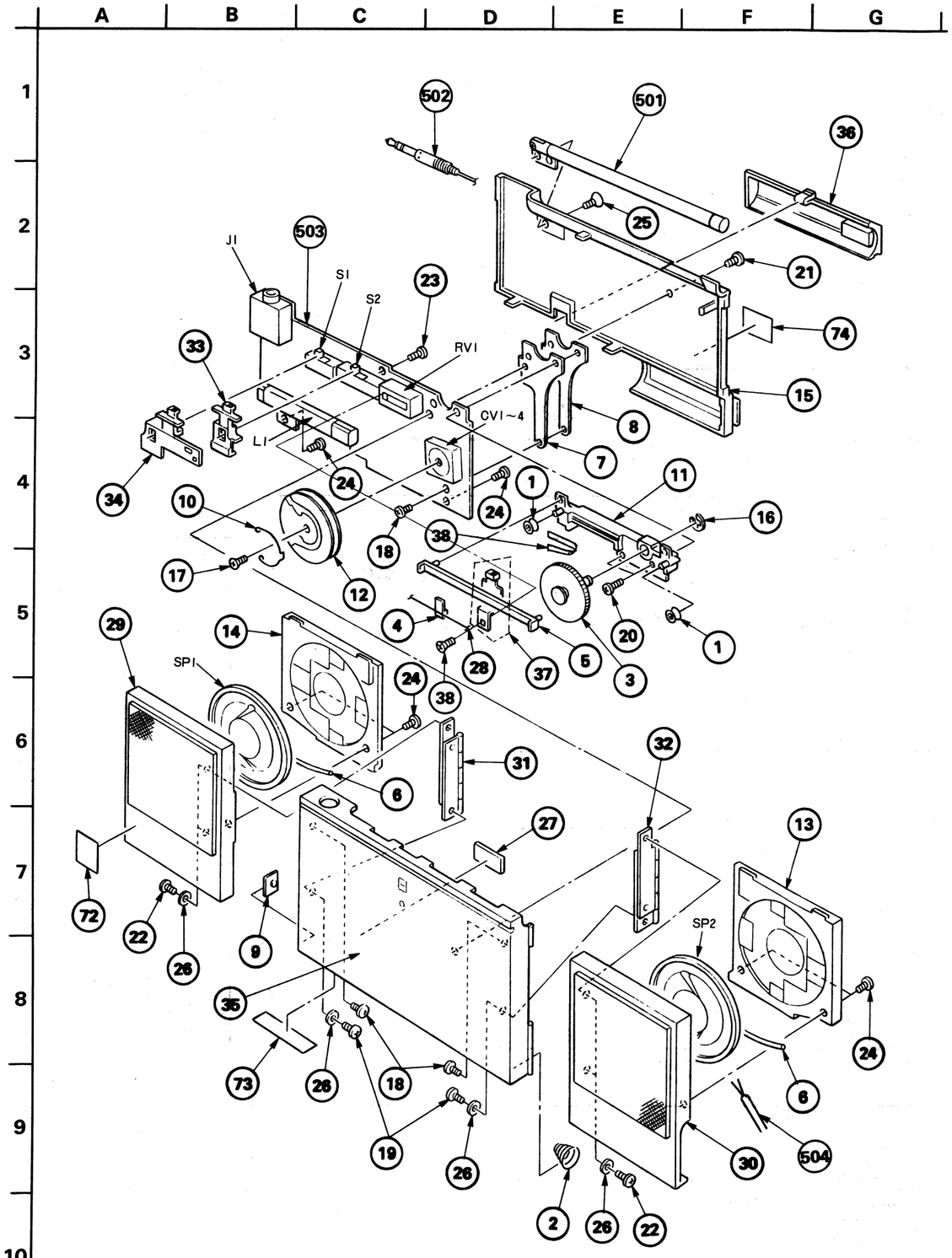
Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- △ : internal component.
- ※ : selected to yield optimum performance.
  Adjust R8 (10k, 13k, 15k) when replacing IC2.
- ▭ : panel designation.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM.
  ( ) : AM
- Voltage variations may be noted due to normal production tolerances.
- Total current is measured with no signal.
- Switch

Ref. No.	Switch	Position
S1	BAND	FM STEREO
S2	FUNCTION	RADIO
S3	Speaker ON/OFF	ON

Note: Voltages are measured with a VOM (50kΩ/V).

SECTION 5
EXPLODED VIEW AND PARTS LIST



SRS-F20

GENERAL SECTION

No.	Part No.	Description
1	3-562-207-00	PULLEY, DIAL CORD
2	3-830-957-00	SPRING
3	3-892-403-00	KNOB, TUNING
4	3-892-404-00	POINTER
5	3-892-405-00	TABLE POINTER
6	3-892-406-00	RETAINER, SPEAKER
7 ♦	3-892-407-00	SHEET, INSULATING
8 ♦	3-892-408-00	REINFORCEMENT
9	3-892-409-00	TERMINAL, BATTERY
10	3-892-415-00	SPRING
11	X-3892-413-1	CHASSIS ASSY
12	3-892-424-00	DRUM, DIAL
13	3-892-426-00	LID, (RIGHT) (SPEAKER), REAR
14	3-892-428-00	LID (LEFT) (SPEAKER), REAR
15	3-892-429-00	LID (MAIN), REAR
16	7-624-105-04	STOP RING 2.3, TYPE -E
17	7-627-450-58	SCREW, PRECISION -K 1.7X3
18	7-627-554-07	SCREW, PRECISION +P 2X2
19	7-627-553-37	SCREW, PRECISION +P 2X3
20	7-627-553-47	SCREW, PRECISION +P 2X4
21	7-627-553-67	SCREW, PRECISION +P 2X5
22	7-627-554-17	SCREW, PRECISION +P 2X3.5
23	7-685-102-19	SCREW +P 2X4 TYPE2 NON-SLIT
24	7-685-104-14	SCREW +P 2X6 TYPE2 NON-SLIT
25	7-685-234-14	SCREW +KTP 2.6X8 TYPE2NON-SLIT
26	7-688-001-01	W 2, SMALL
27	9-911-815-03	CUSHION
28	9-911-825-52	STRING, DIAL
29	A-4524-006-A	CABINET (LEFT) (SPEAKER) ASSY
30	A-4524-007-A	CABINET (RIGHT) (SPEAKER) ASSY
31	X-3892-401-0	HINGE (LEFT) ASSY
32	X-3892-402-0	HINGE (RIGHT) ASSY
33	X-3892-403-0	KNOB ASSY, POWER
34	X-3892-404-0	KNOB ASSY, SELECTION
35	X-3892-409-0	STRIP ASSY, ORNAMENTAL,CABINET
36	X-3892-411-1	BATTERY LID ASSY
37	X-3892-410-1	KNOB ASSY, VOLUME
38	3-892-462-01	SCREW, +KTP 1.4X3 TYPE2 NON-SLIT

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
71	3-527-213-00	LABEL, SERIAL NUMBER
72	3-703-710-01	STICKER, SONY SYMBOL (12)
73	3-892-439-00	LABEL, MODEL NUMBER
74	3-892-441-00	LABEL, CORD ANCHOR CAUTION
75	3-795-748-21	SAFETY INSTRUCTIONS, HEADPHONE
76	X-3892-412-1	CUSHION & GUARDCHIP ASSY
77	3-892-457-01	INDIVIDUAL CARTON
78	3-892-455-00	HOLDER
79	3-995-980-11	MANUAL, INSTRUCTION

GENERAL SECTION

Ref.No.	Part No.	Description			
501	1-501-293-00	ANTENNA, TELESCOPIC (SW/FM)			
502	1-557-090-00	CORD (WITH PLUG)			
503 ♦	A-4518-190-A	MOUNTED PCB, PC BOARD			
504	1-557-245-11	CORD, SPEAKER			
BPF1	1-235-171-00	FILTER, BAND PASS			
C1	1-162-005-00	CERAMIC	2.2PF	10%	50V
C2	1-162-019-00	CERAMIC	18PF	5%	50V
C3	1-162-073-00	CERAMIC	24PF	5%	50V
C4	1-162-044-00	CERAMIC	10PF	5%	50V
C5	1-102-936-00	CERAMIC	3PF	0.25PF	50V
C6	1-162-110-00	CERAMIC	0.001MF	10%	50V
C7	1-124-224-00	ELECT	47MF	20%	6.3V
C8	1-161-013-00	CERAMIC	0.01MF	10%	25V
C9	1-124-434-00	ELECT	220MF	20%	4V
C10	1-124-224-00	ELECT	47MF	20%	6.3V
C11	1-124-233-00	ELECT	10MF	20%	16V
C12	1-124-245-00	ELECT	4.7MF	20%	35V
C13	1-124-251-00	ELECT	0.22MF	20%	50V
C14	1-124-245-00	ELECT	4.7MF	20%	35V
C15	1-124-258-00	ELECT	3.3MF	20%	50V
C16	1-124-255-00	ELECT	1MF	20%	50V
C17	1-130-651-00	FILM	0.001MF	5%	100V
C18	1-124-255-00	ELECT	1MF	20%	50V
C19	1-161-494-00	CERAMIC	0.022MF	30%	25V
C20	1-161-015-00	CERAMIC	0.015MF	10%	25V
C21	1-161-015-00	CERAMIC	0.015MF	10%	25V
C22	1-124-245-00	ELECT	4.7MF	20%	35V
C23	1-124-245-00	ELECT	4.7MF	20%	35V
C24	1-124-255-00	ELECT	1MF	20%	50V
C25	1-162-111-00	CERAMIC	0.0022MF	30%	25V

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

GENERAL SECTION

Ref.No.	Part No.	Description			
C26	1-124-220-00	ELECT	33MF	20%	4V
C27	1-124-220-00	ELECT	33MF	20%	4V
C2	1-131-343-00	TANTALUM	0.22MF	20%	35V
C29	1-124-220-00	ELECT	33MF	20%	4V
C30	1-124-434-00	ELECT	220MF	20%	4V
C31	1-124-434-00	ELECT	220MF	20%	4V
C32	1-163-074-00	CERAMIC CHIP	0.033MF		50V
C33	1-163-074-00	CERAMIC CHIP	0.033MF		50V
C34	1-124-222-00	ELECT	22MF	20%	6.3V
C35	1-124-255-00	ELECT	1MF	20%	50V
C36	1-162-111-00	CERAMIC	0.0022MF	30%	25V
C37	1-124-220-00	ELECT	33MF	20%	4V
C38	1-124-220-00	ELECT	33MF	20%	4V
C39	1-131-343-00	TANTALUM	0.22MF	20%	35V
C40	1-124-220-00	ELECT	33MF	20%	4V
C41	1-124-434-00	ELECT	220MF	20%	4V
C42	1-162-037-00	CERAMIC	100PF	5%	50V
C43	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C44	1-163-047-00	CERAMIC CHIP	0.001MF	5%	50V
C45	1-163-976-00	CERAMIC CHIP	560PF	5%	50V
C46	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C47	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C48	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
CF1	1-567-097-61	FILTER, CERAMIC			
CF2	1-567-090-00	FILTER, CERAMIC			
CF3	1-567-090-00	FILTER, CERAMIC			
CF4	1-567-097-61	FILTER, CERAMIC			
CT1	1-151-453-00	CAP, TUNING, POLYETHYLENE			
CT2	1-151-453-00	CAP, TUNING, POLYETHYLENE			
CT3	1-151-453-00	CAP, TUNING, POLYETHYLENE			
CT4	1-151-453-00	CAP, TUNING, POLYETHYLENE			
CV1	1-151-453-00	CAP, TUNING, POLYETHYLENE			
CV2	1-151-453-00	CAP, TUNING, POLYETHYLENE			
CV3	1-151-453-00	CAP, TUNING, POLYETHYLENE			
CV4	1-151-453-00	CAP, TUNING, POLYETHYLENE			
D1	8-719-812-26	DIODE TLR226			
IC1	8-752-007-50	IC CX20075			
IC2	8-759-200-94	IC TA7342F			
IC3	8-759-273-31	IC TA7331F			
IC4	8-759-273-31	IC TA7331F			
J1	1-507-794-00	JACK, SMALL TYPE			
L1	1-402-053-00	ANTENNA, FERRITE-ROD (MW)			
L2	1-459-435-00	COIL (WITH CORE)			
L3	1-459-418-00	COIL (WITH CORE)			
L4	1-405-989-00	COIL, OSC			
L5	1-408-995-00	MICRO INDUCTOR 0.47UH			
L6	1-408-998-00	MICRO INDUCTOR 10UH			

GENERAL SECTION

Ref.No.	Part No.	Description			
L7	1-408-997-00	MICRO INDUCTOR 2.2UH			
L8	1-408-997-00	MICRO INDUCTOR 2.2UH			
L9	1-408-997-00	MICRO INDUCTOR 2.2UH			
Q1	8-729-245-83	TRANSISTOR 2SC2458			
Q2	8-729-245-83	TRANSISTOR 2SC2458			
Q3	8-729-245-83	TRANSISTOR 2SC2458			
Q4	8-729-245-83	TRANSISTOR 2SC2458			
R1	1-247-839-00	CARBON	2.2K	5%	1/6W
R2	1-247-811-00	CARBON	150	5%	1/6W
R3	1-247-879-00	CARBON	100K	5%	1/6W
R4	1-247-849-00	CARBON	5.6K	5%	1/6W
R5	1-247-879-00	CARBON	100K	5%	1/6W
R6	1-247-859-00	CARBON	15K	5%	1/6W
R7	1-247-831-00	CARBON	1K	5%	1/6W
R8	1-247-855-00	CARBON	10K	5%	1/6W
R8	1-247-858-00	CARBON	13K	5%	1/6W
R8	1-247-859-00	CARBON	15K	5%	1/6W
R9	1-247-783-00	CARBON	10	5%	1/6W
R10	1-247-879-00	CARBON	100K	5%	1/6W
R11	1-247-831-00	CARBON	1K	5%	1/6W
R12	1-247-879-00	CARBON	100K	5%	1/6W
R13	1-247-879-00	CARBON	100K	5%	1/6W
R14	1-247-815-00	CARBON	220	5%	1/6W
R15	1-247-871-00	CARBON	47K	5%	1/6W
R16	1-247-807-00	CARBON	100	5%	1/6W
R17	1-247-783-00	CARBON	10	5%	1/6W
R18	1-247-879-00	CARBON	100K	5%	1/6W
R19	1-247-879-00	CARBON	100K	5%	1/6W
R20	1-247-815-00	CARBON	220	5%	1/6W
R21	1-247-839-00	CARBON	2.2K	5%	1/6W
R22	1-247-871-00	CARBON	47K	5%	1/6W
R23	1-247-807-00	CARBON	100	5%	1/6W
R24	1-247-783-00	CARBON	10	5%	1/6W
R25	1-247-795-00	CARBON	33	5%	1/6W
R26	1-247-795-00	CARBON	33	5%	1/6W
R27	1-247-771-00	CARBON	3.3	5%	1/6W
R28	1-247-771-00	CARBON	3.3	5%	1/6W
R29	1-247-879-00	CARBON	100K	5%	1/6W
R30	1-247-879-00	CARBON	100K	5%	1/6W
R31	1-216-150-00	METAL CHIP	10	5%	1/8W
R32	1-216-192-00	METAL CHIP	560	5%	1/8W
RT1	1-226-488-00	RES, ADJ, METAL GLAZE 5K			
RV1	1-230-246-00	RES, VAR, SLIDE 10K/10K			
S1	1-554-061-00	SWITCH, SLIDE (AM/FM)			
S2	1-554-509-21	SWITCH, SLIDE (OFF/AMP/RADIO)			
SP1	1-503-282-00	SPEAKER (050F010)			
SP	1-503-282-00	SPEAKER (050F010)			
T1	1-404-444-00	TRANSFORMER, IF 455KHZ			

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···